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OF THE
CALIFORNIA ACADEMY OF SCIENCES
FOURTH SERIES

Vol. XXIII, No. 38, pp. 561-586, plates 50-51 AUGUST 22, 1944

No. 38

**NOTES ON SOME UNFIGURED TYPE-SPECIMENS OF
CHINESE MOLLUSKS FROM THE NORTH
PACIFIC EXPEDITION**

BY
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The North Pacific Exploring Expedition was carried on from June, 1853, to October, 1855, by the U. S. S. "Vincennes", at first under Captain Ringgold, and after August, 1854, under Captain Rodgers. William Stimpson was the official Zoologist and did most of the collecting work. The ship was for some time stationed at Hong Kong and cruised to Macao and along the Pearl river up near Canton. In these regions most of the Chinese molluscan specimens were obtained, but those localities given as "China Seas" and "Coast of China" generally indicate the open sea, Lat. $21^{\circ} 52' N.$ and Long. $114^{\circ} 09' E.$ to Lat. $22^{\circ} 25' N.$ and Long. $123^{\circ} 53' E.$ which the ship passed through on her way to Japan.

The molluscan collection of this expedition was studied by A. A. Gould, and his results were published successively in the "Proceedings of the Boston Society of Natural History", from 1859 to 1861, and reproduced in 1862 as the third part of his "Otia Conchologica". However, in neither of these publications were his new species from this expedition illustrated. A few of them were subsequently figured by Sowerby in Reeve's "Conchologia Iconica", and some by Watson in the "Report on the Scientific Results of the Voyage of H. M. S. Challenger... Zoology, Vol. 15, Pt. 42." But these illustrations were not taken from the specimens of the original lots.

Gould's report on the result of this expedition was an important one in Chinese malacology, not only because of its early date of pub-

*With a grant-in-aid from the American Philosophical Society in Philadelphia, Pa., U. S. A.

lication, but also because of the great number of species contained therein. No fewer than 122 species were proposed as new to science. Since then the regions where Stimpson's material was obtained, were repeatedly explored, and studied by naturalists abroad as well as at home in subsequent years, and many of Gould's species were neglected and duplicately named, possibly due largely to the brief original descriptions without illustrations. A few cases of these can be cited here as examples: *Columbella* (*Amycla*) *planaxiformis* Sowerby, 1894, is *Columbella bicincta* Gould, 1860, *Minolia* (*Conotrochus*) *strigata* Sowerby, 1894, is *Margarita musiva* Gould, 1861, *Limnaea parvia* von Martens, 1869 (= *Limnaea andersoniana* Nevill, 1871), is *Limnaea ollula* Gould, 1859, etc.

Moreover, the original collection from this expedition, after being studied by Gould, was believed to have been dispersed. A few of the specimens were incorporated in Gould's own collection which is now in the New York State Museum in Albany. Most of the remainder were in the care of its collector, William Stimpson. Therefore a part of the collection was preserved in the Smithsonian Institution in Washington where Stimpson was for years in charge of the Department of Invertebrate Zoology, and still a greater part was brought by him to the Chicago Academy of Sciences when he was elected as Secretary of the Academy and, later on, Director of the Museum. Subsequently a not inconsiderable part of this collection was destroyed in Chicago by the great fire in 1871. This has been confirmed by the early records of the Academy and, during my recent visit to that institution, I obtained the information that the loss included "the invertebrates of the United States North Pacific Exploring Expedition, largely collected in the Japanese Seas by Dr. Stimpson during the years 1853-1856. This collection included a large number of annelids, mollusks and radiates . . ." It is very unfortunate that such a loss can never be replaced.

Having had the privilege of studying the Stimpson material still in existence at the U. S. National Museum and in the New York State Museum, I here present my notes and illustrations of the original specimens as an aid to future students. At the same time, it must be made clear, however, that it is difficult to ascertain in a number of cases whether or not the specimens represent the types of the respective species, since the measurements from such individuals do not agree even approximately with those given in the original descriptions. However, there seems to be little doubt that these specimens are a part of the original lot and are, probably, the only ones still in existence.

In expressing my thanks to those who rendered aid of various kinds towards the completion of this work, I am grateful to Dr. Edwin G. Conklin of the American Philosophical Society in Philadelphia for his keen interest and encouragement. A grant from the Johnson Fund of this Society was made to me for the purpose of carrying on my studies of Chinese mollusks in this country. To

Dr. C. C. Adams and Dr. Dayton Stoner of the New York State Museum, as well as to Dr. A. Wetmore and Dr. Paul Bartsch of the U. S. National Museum, I am thankful for their kindness and courtesy extended to me during my stay in their institutions for the purpose of examining the material discussed in the present work. They have also kindly furnished me with photographs of the type specimens with permission for their reproduction here.

SYSTEMATIC ACCOUNT

Family TROCHIDAE

Euchelus verrucus (Gould), 1861

Plate 50, figures 10, 11

Diloma verruca Gould, Proc. Boston Soc. Nat. Hist., 8:18, March, 1861.

Type locality: "Coral Seas, China".

The original lot is in the U. S. National Museum, "Type C. 420, Smithsonian Institution 24190". It contains 2 specimens, the smaller one is reddish stained on the larger whorls, the other bears pinkish streaks on white. Their measurements are: 3.1 mm. in altitude, 2.8 mm. in width, with 4½ whorls; another 2.8 mm. in altitude, 2.4 mm. in width, with 4 whorls. The original was given as "axis, 4; diam. 3 millim".

Monodonta glabratum Gould, 1861

Monodonta glabratum Gould, Proc. Boston Soc. Nat. Hist., 8:20, March, 1861.

Type locality: "China Seas".

The lot in the U. S. National Museum is marked with a query "? Type C. 2051", and contains a single specimen, measuring 20.0 mm. in altitude, 17.5 mm. in width, and with 6 whorls. It agrees well with *M. labio* Linné, but it does not seem to represent *M. glabratum* Gould. The original was given as "axis, 15; diam. 13 millim".

Trochus lacertinus (Gould), 1861

Plate 50, figures 1, 2

Polydonta (Infundibulum) lacertinum Gould, Proc. Boston Soc. Nat. Hist., 8:19, March, 1861.

Type locality: "Hong Kong Harbor".

The lot in the U. S. National Museum is marked "Type C. 629, Smithsonian Institution 24888". It measures 19.0 mm. in altitude,

23.5 mm. in width and has 10 whorls. It is larger than any of the 4 specimens preserved in the New York State Museum (Gould Type Cat. No. 128, original no. 2420), but still is smaller than that given in the original description. Gould gave its measurements as "Diam. et axis, 25 millim".

Calliostoma acutum (Gould), 1861

Plate 50, figures 6, 7

Ziziphinus acutus Gould, Proc. Boston Soc. Nat. Hist., 8:19, March, 1861.

Type locality: "Eastern Coral Seas".

The lot in the U. S. National Museum is labelled "Type C. 414, Smithsonian Institution 24157", and measures 5.0 mm. in altitude, 4.0 mm. in width, and has 8 whorls; while in Gould's original description it is slightly smaller, given as "axis, 4; diam. 3 millim". The apical whorls are dark red, early ones pinkish and yellowish-green, and the later ones yellowish with white streaks. It seems to resemble closely *C. decussatum* (A. Adams, 1853) described from the Philippine Islands, which is of but slightly smaller size.

Minolia musiva (Gould), 1861

Plate 50, figures 8, 9

Margarita musiva Gould, Proc. Boston Soc. Nat. Hist., 8:15, March, 1861.

Type locality: "Hong Kong Harbor, in 10 fath., shelly gravel".

The lot in the U. S. National Museum is labelled "Type C. 536, Smithsonian Institution 31126" and contains 2 specimens, one measuring 5.8 mm. in altitude, 5.2 mm. in width, with $6\frac{1}{4}$ whorls; another 4.6 mm. in altitude, 4.9 mm. in width, with $5\frac{3}{4}$ whorls. The lot in the New York State Museum is marked as "Gould Type Cat. No. 142 (original no. 2440)" which also contains 2 specimens of smaller size. Gould's original description reads "axis, 6; diam. 5 millim".

Ethalia capillata Gould, 1861

Plate 50, figures 16, 17

Ethalia capillata Gould, Proc. Boston Soc. Nat. Hist., 8:17, March, 1861.

Type locality: "Coast of China, 23° 30' N., in 25 fathoms, sandy".

The lot in the U. S. National Museum is marked "Type C. 1801, Smithsonian Institution 24233" and contains 3 specimens, the measurements in millimeters are as follows: altitude 4.9, width 7.9,

with 6 whorls; altitude 4.3, width 6.8, with $5\frac{1}{2}$ whorls; and altitude 3.5, width 5.4, with $4\frac{1}{4}$ whorls.

The lot in the New York State Museum is marked "Gould Type Cat. No. 121 (original no. 2453)," and contains 2 specimens of smaller size. These specimens agree well with the original description. The callus located at the columellar parietal angle of the aperture is tongue-shaped, and partly covers the umbilicus. The umbilicus is completely open in the young. The original dimensions were given by Gould as "axis, 4+; diam. 8 millim".

Family CYCLOSTREMATIDAE

Cyclostrema modestum Gould, 1859

Plate 50, figures 22, 23

Cyclostrema modestum Gould, Proc. Boston Soc. Nat. Hist., 7:142, October, 1859.

Type locality: "Hong Kong".

The lot in the U. S. National Museum is labelled "Type C. 448, Smithsonian Institution 24170", and contains a single specimen, 4.3 mm. in width and 3.0 mm. in altitude, while the measurements given in the original description by Gould are "diam. 4 millim.; axis 2 millim".

Family TURBINIDAE

Liotia solidula Gould, 1859

Plate 50, figures 24, 25

Liotia solidula Gould, Proc. Boston Soc. Nat. Hist., 7:141, October, 1859.

Type locality: "Dredged in 25 fathoms off the coast of China".

The lot in the U. S. National Museum is labelled "? Type C. 1295, Smithsonian Institution 24224", and contains 2 specimens. The locality given by Stimpson on the label for this species is "Kagosima".

Liotia asteriscus Gould, 1859

Plate 50, figures 30, 31

Liotia asteriscus Gould, Proc. Boston Soc. Nat. Hist., 7:142, October, 1859.

Type locality: "Hong Kong".

The lot in the U. S. National Museum is labelled "Type C. 2050, Smithsonian Institution 24055", and contains a single specimen, while the lot in the New York State Museum, "Gould Type Cat. No. 120 (original no. 2425)", contains 2 specimens. All these specimens are somewhat larger than the one in the original description.

The shell is minute in size, solid and thick, openly and widely umbilicated. The umbilicus is defined by a ridge-line externally. The whorls rapidly increase in width, having the surface marked by growth and by spiral lines, and this sculpture is prominently developed on later whorls into spiral rows of tubercles. There are 3 such rows on the body whorl. The upper 2 rows produce a biangulated appearance; the third row is on the base. The aperture is oblique, circular in form, having its peristome continuous, thick and double margined. The interior of the umbilicus is sulcated. Measurements: altitude 1.1 mm., width 2.0 mm., diameter of umbilicus 0.3 mm., with $4\frac{1}{4}$ whorls.

Leptothyra lenticula (Gould), 1861

Plate 50, figures 32, 33

Collonia lenticula Gould, Proc. Boston Soc. Nat. Hist., 8:21, March, 1861.

Type locality: "China Coral Seas".

The lot in the U. S. National Museum is labelled "Type C. 400, Smithsonian Institution 24196", and contains a single specimen in worn condition, but having its fine spiral sculpture traceable. Its umbilicus is completely covered by thick callus. It measures 3.0 mm. in altitude, 4.0 mm. in width, and has 4 whorls, while the original is "diam. 4; axis, 2 millim".

Family LITTORINIDAE

Plesiotrochus luteus (Gould), 1861

Plate 50, figures 42, 43

Tectarius luteus Gould, Proc. Boston Soc. Nat. Hist., 8:14, March, 1861.

Type locality: "China Seas".

The lot in the New York State Museum is labelled "Gould Type Cat. No. 87 (original no. 2526)", and contains 2 specimens, one of which measures 5.0 mm. in altitude, 3.1 mm. in width, $8\frac{1}{4}$ whorls; the other 4.1 mm. in altitude, 2.9 mm. in width, with 7 whorls. The original is given as "axis, 6+; diam. 4.0 millim".

The shell is whitish, somewhat in worn condition, but its fine spiral sculpture is easily traceable. The body whorl is prominently carinated at the periphery and descends in front. The aperture is somewhat ventricose and has a thin lip-margin. This species seems to be related to *P. souverbianus* Fischer, 1878, described from Lifu Island.

Family RISSOIDAE

Alvania trochlearis (Gould), 1861

Plate 50, figures 38, 39

Rissoina trochlearis Gould, Proc. Boston Soc. Nat. Hist., 7:400, January, 1861.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "Type 661", and contains a single specimen. The internal side of the outer lip is sparsely dented with 2 to 3 well developed sulcations which are not mentioned in the original description. These sulcations correspond with the strong spirals externally.

Alvania ligata Gould, 1861

Plate 50, figures 12, 13

Alvania ligata Gould, Proc. Boston Soc. Nat. Hist., 7:402, February, 1861.

Type locality: "Dredged in Hong Kong Harbor".

The lot in the U. S. National Museum is labelled "Type 948", and contains a single specimen. The lot in the New York State Museum is labelled "Gould Type Cat. No. 93 (original no. 2467)", and contains a single specimen. It seems to be identical with the preceding species, but Gould considered them as belonging to different genera as well as species.

The shell is small and thick, having its peristome continuous, bluish porcellaneous inside of the aperture, having its outer lip somewhat expanded, thickened externally and dentate within. The sculpture consists of strong, spiral keels throughout the shell except on the apical part. Measurements: altitude 3.8 mm., diam. 2.0 mm., with 7 whorls.

Alvania fusca Gould, 1861

Plate 50, figures 18, 19

Alvania fusca Gould, Proc. Boston Soc. Nat. Hist., 7:403, February, 1861.

Type locality: "Dredged in Hong Kong Harbor".

The lot in the U. S. National Museum is marked "Type Smithsonian Institution 37347", and contains a single specimen. The lot in the New York State Museum is labelled "Gould Type Cat. No. 94 (original no. 2466)", and contains 2 specimens. The locality given on the label for the second lot is "Hakodadi". They nearly approach in size that given in the original description.

Rissoina nitidula Gould, 1861

Plate 50, figures 26, 27

Rissoina nitidula Gould, Proc. Boston Soc. Nat. Hist., 7:400, January, 1861.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "Type C. 578, Smithsonian Institution 24071", and contains a single specimen, measuring 5.0 mm. in altitude, 2.1 mm. in width, with $8\frac{1}{2}$ whorls. The original measurements were given by Gould as "axis 5; diam. 2 millim".

Hyalia abnormis Gould, 1861

Plate 50, figures 34, 35

Hyalia abnormis Gould, Proc. Boston Soc. Nat. Hist., 7:408, February, 1861.

Type locality: "China Sea; coral regions".

The lot in the U. S. National Museum marked "Type 392", contains a single specimen. The species is distinguished by its minute size, glossy surface, bearing but very fine striae and by being almost translucent. The generic position is uncertain, Gould himself suggested that it might belong to *Auriculina* Gray except for the lack of a columellar fold. It may belong to *Cecina* A. Adams.

Family THIARIDAE

Semisulcospira libertina (Gould), 1859

Plate 50, figures 40, 41

Melania libertina Gould, Proc. Boston Soc. Nat. Hist., 7:42, June, 1859.

Type locality: "Simoda and Ousima, in sluggish streams and ditches". Japan.

The lot in the U. S. National Museum is marked "Type C. 2120", and contains 3 specimens from Ousima. This is a common species occurring in eastern Asia. It has been repeatedly recorded from the lower Yangtze valley as well as the coast of the southern provinces. There is another lot of 2 specimens from Simoda also preserved in the U. S. National Museum. The figured specimen is from Ousima.

Family POTAMIDIDAE

Batillaria placida (Gould), 1861

Plate 50, figures 3, 4

Cerithium placidum Gould, Proc. Boston Soc. Nat. Hist., 7:386, January, 1861.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "Type C. 443, Smithsonian Institution 24137", and contains a single specimen, measuring 6.5 mm. in altitude, 2.1 mm. in width, with 10 whorls. The original was given by Gould as "axis 8; diam. 2 millim". The specimen is in worn condition, but its sculpture is easily traceable; the spiral lines are more prominently developed. The apical part is injured.

Bittium glareosum Gould, 1861

Plate 50, figure 5

Bittium glareosum Gould, Proc. Boston Soc. Nat. Hist., 7:387, January, 1861.

Type locality: "Port Lloyd, Bonin Is., and Loo Choo Is."

The lot in the U. S. National Museum is marked "Type 2422", and contains 6 specimens, the largest one measures 6.0 mm. in altitude, 2.0 mm. in width, with 10 whorls. It has been recorded from Hong Kong as well as from the southern coast of China.

Bittium alutaceum Gould, 1861

Plate 50, figures 14, 15

Bittium alutaceum Gould, Proc. Boston Soc. Nat. Hist., 7:387, January, 1861.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "Type C. 531, Smithsonian Institution 24179", and contains a single specimen which measures 7.2 mm. in altitude, 3.1 mm. in width, and having 9 whorls.

Bittium craticulatum Gould, 1861

Plate 50, figures 20, 21

Bittium craticulatum Gould, Proc. Boston Soc. Nat. Hist., 7:387, January, 1861.

Type locality: "Hong Kong; laminarian zone".

The lot in the New York State Museum is labelled "Gould Type Cat. No. 57 (original no. 2471)," containing 7 specimens. Two of the larger specimens yield these measurements: one 7.0 mm. in alti-

tude, 2.1 mm. in width, 10+ whorls; and another 6.0 mm. in altitude, 1.9 mm. in width, with 11½ whorls. The smaller specimen has its apical whorls well preserved.

Family CERITHIOPSIDAE

Joculator semipictus (Gould), 1861

Plate 50, figures 28, 29

Cerithiopsis semipictus Gould, Proc. Boston Soc. Nat. Hist., 7:388, January, 1861.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "Type C. 376, Smithsonian Institution 24208", and contains a single specimen in worn condition and somewhat injured on the early whorls, however, the coloration is well retained. It seems to resemble somewhat *J. ridiculus* (Watson, 1886), described from Australia.

Cerithiopsis laqueata Gould, 1861

Plate 50, figure 44

Cerithiopsis laqueata, Gould, Proc. Boston Soc. Nat. Hist., 7:387, January, 1861.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "C. 505b, Smithsonian Institution 24098", and contains a single specimen, measuring 9.4+ mm. in altitude, 2.2 mm. in width, and having more than 13 whorls. The original measurements given by Gould were, "axis 8; diam. 2 millim".

Family PYRAMIDELLIDAE

Actaeopyramis sinuata (Gould), 1861

Plate 50, figures 36, 37

Monoptygma sinuata Gould, Proc. Boston Soc. Nat. Hist., 7:406, February, 1861.

Type locality: "China Seas".

The lot in the New York State Museum is marked "Gould Type Cat. No. 47 (original no. 2459)", and contains a single specimen, measuring 7.3 mm. in altitude, 3.3 mm. in width, with 6 whorls, but the original was given by Gould as "axis 18; diam. 4 millim". Could the measurement "axis 18" mm. given by Gould be a typographic error?

Actaeopyramis puncticulata (Gould), 1861

Plate 50, figures 45, 46

Monopygma puncticulata Gould, Proc. Boston Soc. Nat. Hist., 7:405, February, 1861.

Type locality: "China Seas".

The lot in the New York State Museum is marked "Gould Type Cat. No. 45 (original no. 2457)", and contains a single specimen which is 10.0 mm. in altitude, 3.1 mm. in width, and with 8 whorls. The original was given by Gould as "axis 10; diam. 3.5 millim".

Family FOSSARIDAE

Fossarus tornatilis (Gould), 1859

Plate 51, figures 1, 2

Fossar tornatilis Gould, Proc. Boston Soc. Nat. Hist., 7:44, June, 1859.

Type locality: "Hong Kong Harbor, 10 faths."

The lot in the U. S. National Museum is labelled "Type, 560", and contains a single specimen, measuring nearly the same size as that given in the original description.

Family COLUMBELLIDAE

Pyrene araneosa (Gould), 1860

Plate 51, figure 3

Columbella araneosa Gould, Proc. Boston Soc. Nat. Hist., 7:336, September, 1860.

Type locality: "Kagosima Bay and China Coast".

The lot in the U. S. National Museum is labelled "Type C. 1368, Smithsonian Institution 24180", and contains a single specimen, measuring 9.5 mm. in altitude, 4.0 mm. in width, with 9 whorls.

It seems to be very closely related to *Pyrene martensi* (Lischke, 1871), which is a very common form found on the Chinese coast.

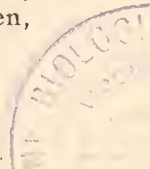
Pyrene bicincta (Gould), 1860

Plate 51, figure 4

Columbella bicincta Gould, Proc. Boston Soc. Nat. Hist., 7:335, September, 1860.

Type locality: "Hong Kong Harbor, 10 fathoms, shelly sand".

The lot in the U. S. National Museum is labelled "Type C. 517, Smithsonian Institution 24167", and contains a single specimen,



9.0 mm. in altitude, 4.0 mm. in width, with 7+ whorls. *Pyrene planaxiformis* (Sowerby, 1894), described from Hong Kong, is the same as this species, differing only by 0.5 mm. in width.

***Pyrene lineolata* (Gould), 1860**

Plate 51, figure 5

Columbella lineolata Gould, Proc. Boston Soc. Nat. Hist., 7:335, September, 1860.

Type locality: "Hong Kong".

The lot in the U. S. National Museum is marked "Type C. 562, Smithsonian Institution 24199", and contains a single specimen, measuring 9.0 mm. in altitude, 3.6 mm. in width, with 8 whorls.

***Anachis minuta* (Gould), 1860**

Plate 51, figures 12, 13

Columbella (Anachis) minuta Gould, Proc. Boston Soc. Nat. Hist., 7:334, September, 1860.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "Type C. 397, Smithsonian Institution 24231", and contains a single specimen, measuring 2.5 mm. in altitude, 1.2 mm. in width and having 5½ whorls.

***Anachis atrata* (Gould), 1860**

Plate 51, figures 14, 15

Columbella (Anachis) atrata Gould, Proc. Boston Soc. Nat. Hist., 7:334, September, 1860.

Type locality: "Hong Kong Harbor".

The lot in the U. S. National Museum is marked "Type C. 2026, Smithsonian Institution 24172", and contains 3 specimens. The lot in the New York State Museum is marked "Gould Type Cat. No. 30 (original no. 2464)", and contains 2 specimens.

The shell is small in size, ovate-oblong or subfusiform in outline, solid and thick, of reddish-brown coloration. The whorls are scarcely convex and rapidly increase in height. The suture is superficial but well marked by a strong spiral line. The surface is sculptured by strongly developed riblets throughout, except in the last third of the body whorl where these riblets become obsolete. There are a few spiral sulcations towards the base. The aperture is

narrowly oblong, open below, having its outer lip thickened externally, sharp at superior margin and denticulated within; inner lip moderately callused and well defined. Measurements: altitude 4.9 mm., width 2.0 mm. with 6 whorls.

Anachis alternata (Gould), 1860

Plate 51, figures 28, 29

Columbella alternata Gould, Proc. Boston Soc. Nat. Hist., 7:335, September, 1860.

Type locality: "Hong Kong".

The lot in the U. S. National Museum is marked as "Type C. 582, Smithsonian Institution 24222", and contains a single specimen, measuring 3.5 mm. in altitude, 1.6 mm. in width, with 5 whorls.

Anachis virginea (Gould), 1860

Plate 51, figures 33, 34

Columbella virginea Gould, Proc. Boston Soc. Nat. Hist., 7:335, September, 1860.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "Type C. 382, Smithsonian Institution 24139", and contains 2 specimens. *Anachis peasei* (von Martens, 1871), described from the Sandwich [Hawaiian] Islands, seems to be very closely related, if not identical, with this species.

Anachis nebulosa (Gould), 1860

Plate 51, figures 45, 46

Columbella (Anachis) nebulosa Gould, Proc. Boston Soc. Nat. Hist., 7:333, September, 1860.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "Type C. 412, Smithsonian Institution 13283", and contains a single specimen measuring 5.9 mm. in altitude, 2.4 mm. in width, with 8 whorls. It is ovately oblong in outline, sculpture consisting of strong riblets and incised spiral lines, outer lip not thickened within, columellar plait not well developed. The generic position is uncertain.

Family OLIVIDAE

Olivella spreta Gould, 1860

Plate 51, figures 47, 48

Olivella spreta Gould, Proc. Boston Soc. Nat. Hist., 7:383, December, 1860.

Type locality: "Hong Kong Harbor, in 10 faths., shelly sand".

The lot in the U. S. National Museum is marked "Type C. 516, Smithsonian Institution 24169", and contains a single specimen, measuring 6.0 mm. in altitude, 3.0 mm. in width with 4 whorls. *Olivella fortunei* (A. Adams) seems to be only a larger form of this species.

Family MITRIDAE

Pusia russa (Gould), 1860

Plate 51, figures 58, 59

Mitra russa Gould, Proc. Boston Soc. Nat. Hist., 7:333, September, 1860.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "Type C. 431, Smithsonian Institution 24164", and contains a single specimen, appearing to be a young form, and measuring 5.5 mm. in altitude, 3.1 mm. in width, with a little more than 5 whorls. It seems to be closely related to *Pusia pardalis* (Kuester), a form reported from Polynesia, Philippines, Red Sea, Mauritius, etc.

Family MARGINELLIDAE

Persicula tantilla Gould, 1860

Plate 51, figures 60, 61

Persicula tantilla Gould, Proc. Boston Soc. Nat. Hist., 7:384, December, 1860.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "Type C. 445, Smithsonian Institution 24258", and contains a single specimen, measuring slightly smaller than that given by Gould.

Crithe atomaria Gould, 1860

Plate 51, figures 62, 63

Crithe atomaria Gould, Proc. Boston Soc. Nat. Hist., 7:384, December, 1860.

Type locality: "China Seas".

The lot in the U. S. National Museum is marked "Type C. 386, Smithsonian Institution 24181", and contains but one specimen.

Family TURRIDAE

Asthenotoma vallata (Gould), 1860

Plate 51, figures 6, 7

Drillia vallata Gould, Proc. Boston Soc. Nat. Hist., 7:336, September, 1860.

Type locality: "Vicinity of Hong Kong, in 10 fathoms, shelly mud".

The lot in the U. S. National Museum is labelled "Type C. 528, Smithsonian Institution 24195", and contains a single specimen, measuring 9.8 mm. in altitude, 3.2 mm. in width, with 10 whorls.

Eucithara lota (Gould), 1860

Plate 51, figures 16, 23

Cythara lota Gould, Proc. Boston Soc. Nat. Hist., 7:339, October, 1860.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "Type C. 413", and contains a single specimen, measuring 4.8 mm. in altitude, 2.8 mm. in width, with 5 whorls.

Mangelia dorsuosa (Gould), 1860

Plate 51, figures 21, 22

Columbella (Anachis) dorsuosa Gould, Proc. Boston Soc. Nat. Hist., 7:333, September, 1860.

Type locality: "Hong Kong".

The lot in the U. S. National Museum is marked "Type C. 495, Smithsonian Institution 14191", and contains a single specimen, measuring 6.0 mm. in altitude, 2.2 mm. in width, with 8 whorls. It is slightly smaller than that given in Gould's original description as "axis 7; lat. 3 millim".

Pseudorhaphitoma tetragona (Gould), 1860

Plate 51, figures 8, 9

Mangelia tetragona Gould, Proc. Boston Soc. Nat. Hist., 7:382, December, 1860.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "? Type C. 375, Smithsonian Institution 24197", and contains a single specimen, measuring 5.5 mm. in altitude, 2.0 mm. in width, with 7 whorls. The specimen is in worn condition, having its sculpture faintly traceable. This species seems to be related to *Pseudorhaphitoma ixicula* Hedley, 1922 (= *P. hexagonalis* Brazier, non Reeve).

Veprecula pungens (Gould), 1860

Plate 51, figures 17, 18

Clavatula pungens Gould, Proc. Boston Soc. Nat. Hist., 7:339, October, 1860.

Type locality: "Hong Kong Harbor, in 10 faths., shelly sand".

The lot in the U. S. National Museum is marked "C. 515", but is not mentioned as the "Type". The single specimen measures 9.0 mm. in altitude, 3.0 mm. in width, with 8 whorls, which agrees well with that given by Gould as "axis 9; diam. 3 millim".

Daphnella aspersa (Gould), 1860

Plate 51, figures 24, 25

Clathurella aspersa Gould, Proc. Boston Soc. Nat. Hist., 7:338, October, 1860.

Type locality: "Off Hong Kong, in 15 fathoms, shelly sand".

The lot in the U. S. National Museum is labelled as "Type C. 532, Smithsonian Institution 24147", and contains a single specimen, measuring 13.5 mm. in altitude, 3.9 mm. in width with 8 whorls.

Pseudodaphnella intaminata (Gould), 1860

Plate 51, figures 10, 11

Mangelia intaminata Gould, Proc. Boston Soc. Nat. Hist., 7:339, October, 1860.

Type locality: "China Seas".

The lot in the U. S. Nat. Museum is labelled "Type C. 402, Smithsonian Institution 24214", and contains a single specimen, measuring 6.3 mm. in altitude, 2.3 mm. in width, with 7 whorls, while the original given by Gould is "axis 7; diam. 3 millim".

Hemidaphne gouldi Yen, nom. nov.

Plate 51, figures 19, 20

Mangelia pura Gould, Proc. Boston Soc. Nat. Hist., 7:339, October, 1860,
(non Reeve, 1846).

Type locality: "Hong Kong Harbor".

The lot in the U. S. National Museum is marked "Type C. 436, Smithsonian Institution 24246", and contains a single specimen, measuring 7.0 mm. in altitude, 2.2 mm. in width, with 7 whorls.

There is another lot in the New York State Museum labelled "*Daphnella deluta* (Gould Type Cat. No. 4, original no. 2495)" which should belong to this species, as the specimen bears no trace of color pattern and the outer lip is not denticulated within, and thus does not agree with Gould's description for *D. deluta*. It is identical with the species here named *Hemidaphne gouldi*.

The name *Mangelia pura* was used by Reeve (Conch. Icon., Vol. 3, sp. 63, pl. VIII, fig. 63, June, 1846) for a species recorded from South Australia. I propose the new name for the Chinese species in honor of its original author, A. A. Gould.

Hemidaphne deluta (Gould), 1860

Plate 51, figures 26, 27

Daphnella deluta Gould, Proc. Boston Soc. Nat. Hist., 7:339, October, 1860.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "Type C. 316, Smithsonian Institution 24225", and contains a single specimen, measuring 7.6 mm. in altitude, 2.5 mm. in width, with 7 whorls, while the original given by Gould is "axis 20; diam. 5 millim".

Family ACTAEONIDAE

Actaeon secale Gould, 1859

Plate 51, figure 32

Actaeon secale Gould, Proc. Boston Soc. Nat. Hist., 7:141, October, 1859.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "Type 557", and contains a single specimen, agreeing in size as well as in general shape and sculpture with that given in the original description.

Family RINGICULIDAE

Ringicula arctata Gould, 1860

Plate 51, figures 30, 31

Ringicula arctata Gould, Proc. Boston Soc. Nat. Hist., 7:325, September, 1860.

Type locality: "Hong Kong Harbor."

The lot in the U. S. National Museum is marked "? Type 567", and contains 2 specimens. This has been figured by Lischke from a specimen obtained in Japan, and his figure agrees well with the type.

Ringicula doliaris Gould, 1860

Plate 51, figures 35, 36

Ringicula doliaris Gould, Proc. Boston Soc. Nat. Hist., 7:325, September, 1860.

Type locality: "Hakodadi Bay, 6 fathoms, sandy mud". Japan.

The lot in the U. S. National Museum is marked "Type 1692", and contains a single specimen. The figure given by Watson for this species in the "Report on the Scientific Results of the Voyage of H. M. S. Challenger . . . Zoology, Vol. 15, Pt. 42", seems to have a more thickly callused inner lip and a more thickened outer lip.

Family ATYIDAE

Atys muscaria Gould, 1859

Plate 51, figures 40, 41

Atys muscaria Gould, Proc. Boston Soc. Nat. Hist., 7:138, October, 1859.

Type locality: "China Seas".

The lot in the U.S. National Museum is marked "? Type 334", and contains a single specimen. It is minute in size, thin and greenish in color, its sculpture consists of finely incised spiral lines and weaker growth striae. Its outer lip is somewhat injured, appearing to be thin-margined and its columella is short and twisted. Measurements: altitude 4.5 mm., width 2.6 mm.

Family SCAPHANDRIDAE

Cylichna protracta Gould, 1859

Plate 51, figure 37

Cylichna protracta Gould, Proc. Boston Soc. Nat. Hist., 7:140, October, 1859.

Type locality: "Coast of China".

The lot in the U. S. National Museum is labelled "? Type 1864", and contains a single specimen having a slightly smaller size than that given by Gould. It is solid and thick, bearing spiral sculpture, and its columella is short and rather strongly plicate.

Cylichna operosa Gould, 1859

Plate 51, figure 38

Cylichna operosa Gould, Proc. Boston Soc. Nat. Hist., 7:140, October, 1859.

Type locality: "Hong Kong Harbor".

The lot in the U. S. National Museum is labelled "Type 537", and contains a single specimen. It approaches the shape of the preceding species, but has a wider and thinner shell.

Cylichna melampoides Gould, 1859

Plate 51, figures 43, 44

Cylichna melampoides Gould, Proc. Boston Soc. Nat. Hist., 7:140, October, 1859.

Type locality: "China Seas".

The lot in the U. S. National Museum is marked "Type Smithsonian Institution 419", and contains a single specimen, measuring 4.0 mm. in altitude, 2.5 mm. in width. It is in worn condition, but its incised spiral lines are traceable at the basal part of the shell.

Cylichna villica Gould, 1859

Plate 51, figure 53

Cylichna villica Gould, Proc. Boston Soc. Nat. Hist., 7:139, October, 1859.

Type locality: "China Seas".

The lot in the U. S. National Museum is labelled "Type 418", and contains a single specimen. Judging by it the expression "utroque

subconica" does not seem to be quite exact. It is truncate and flat on top, obtusely angulated at the shoulder, and somewhat reduced at the base. The lateral outline is gently convex. Measurements: altitude 3.2 mm. width 1.8 mm.

Family PHILINIDAE

Philine vitrea Gould, 1859

Plate 51, figure 64

Philine vitrea Gould, Proc. Boston Soc. Nat. Hist., 7:139, October, 1859.

Type locality: "Dredged at Hong Kong".

The lot in the U. S. National Museum is labelled "Type Smithsonian Institution 24077", and contains 2 specimens. This species seems to be closely related to *Philine orientalis* A. Adams, 1854, but the shell is much thinner and translucent.

Family LYMNAEIDAE

Galba ollula (Gould), 1859

Plate 51, figures 42, 50

Limnaea ollula Gould, Proc. Boston Soc. Nat. Hist., 7:40, June, 1859.

Type locality. "Streams and marshes on Hong Kong Island".

The lot in the U. S. National Museum is marked "Type C. 831", and contains 2 specimens. One of them is a species of *Succinea*. *Galba parvia* (von Martens, 1869), described from North China, and *G. andersoniana* (Nevill, 1871), described from Yunnan province, seem to be the same as *G. ollula*. This is a very common form occurring throughout China, and Gould's name so far has been neglected, however, it has priority.

Family PLANORBIDAE

Gyraulus spirillus (Gould), 1859

Plate 51, figures 49, 52

Planorbis spirillus Gould, Proc. Boston Soc. Nat. Hist., 7:40, June, 1859.

Type locality: "Ousima". Japan.

The lot in the U. S. National Museum is labelled "Type 1557, Smithsonian Institution 24217", and contains 3 specimens. It seems to be closely related to *G. compressus* (Hutton), which is a very common species in Eastern Asia as well as in India.

***Polypylis lucida* (Gould), 1859**

Plate 51, figures 54, 55

Segmentina lucida Gould, Proc. Boston Soc. Nat. Hist., 7:41, June, 1859.

Type locality: "Loo Choo".

The lot in the U. S. National Museum is labelled "Type C. 834, Smithsonian Institution 24243", and contains a single specimen. It seems to be closely related to *Polypylis hemisphaerula* (Benson, 1842), which is a common form existing along the Yangtze valley. The present specimen seems to be a young stage, and has its outer lip somewhat injured.

Family CORILLIDAE

***Plectopylis pulvinaris* (Gould), 1859**

Plate 51, figures 39, 51

Corilla pulvinaris Gould, Proc. Boston Soc. Nat. Hist., 6:424, February, 1859.

Type locality: "Hong Kong, high up in the ravines; also near Canton."

The lot in the New York State Museum is labelled "Gould Type Cat. No. 286 (original no. 2479)", and contains a single specimen in an imperfect state of preservation.

The shell is planorboid in form, large and thin. The apical surface is deeply and widely concave. The whorls are closely coiled and bear strong growth lines decussating the weaker spiral striae. The latter are visible only at a few places on the surface and not at all on the base. The aperture is elongately oval in outline, the parietal callus is very thin, the peristome whitish, callus, and well reflected. It measures 7.0 mm. in altitude, 19.0 mm. in width, 8.8 mm. in diameter of umbilicus, with $6\frac{1}{4}$ whorls. The measurements are larger than those given by Gould. As the specimen is partly injured, internal armature which may have been present is unknown.

Family ENDODONTIDAE

Discus pauper (Gould), 1859

Plate 51, figures 56, 57

Helix pauper Gould, Proc. Boston Soc. Nat. Hist., 6:423, February, 1859.

Type locality: "On dead wood in thickets, Petropaulski, Kamtschatka, also Hakodadi (Isl. Jesso)".

There are 2 lots in the New York State Museum. One is labelled "Gould Type Cat. No. 234 (original no. 2478)", and contains 3 specimens; while the other lot "Gould Type Cat. No. 263 (original no. 2478)", contains 5 specimens.

The shell in discoidal, thin, having a low spire and widely open umbilicus. The whorls are decidedly convex and bear strong, costulate growth lines. The body whorl obliquely descends in front, is very obtusely angulated at the periphery and roundly convex at the base. The aperture is oblique, subovate in form, having its peristome simple and parietal callus thin. The largest specimen measures 4.0 mm. in altitude, 7.0 mm. in width, 2.4 mm. in diameter of umbilicus, and with $4\frac{1}{2}$ whorls. This is a common species occurring in North China.

PLATE 50

Figs. 1, 2. *Trochus lacertinus* (Gould). Specimen from original lot in the U. S. National Museum "Type C. 629, Smithsonian Institution 24888". Hong Kong Harbor, China.

Figs. 3, 4. *Batillaria placida* (Gould). Specimen in the U. S. National Museum "Type C. 443, Smithsonian Institution 24137". China Seas.

Fig. 5. *Bittium glareosum* Gould. Specimen from original lot in the U. S. National Museum "Type C. 2422". Originally described from Port Lloyd, Bonin Islands, and Loo Choo Islands.

Figs. 6, 7. *Calliostoma acutum* (Gould). Specimen in the U. S. National Museum "Type C. 414, Smithsonian Institution 24157". Eastern Coral Seas.

Figs. 8, 9. *Minolia musiva* (Gould). Specimen from original lot in the U. S. National Museum "Type C. 536, Smithsonian Institution 31126". Hong Kong Harbor, China, in 10 fathoms, shelly gravel.

Figs. 10, 11. *Euchelus verrucus* (Gould). Specimen from original lot in the U. S. National Museum "Type C. 420, Smithsonian Institution 24190". Coral Seas, China.

Figs. 12, 13. *Alvania ligata* Gould. From original lot in the U. S. National Museum "Type 948". Dredged in Hong Kong Harbor, China.

Figs. 14, 15. *Bittium alutaceum* Gould. Specimen in the U. S. National Museum "Type C. 531, Smithsonian Institution 24179". China Seas.

Figs. 16, 17. *Ethalia capillata* Gould. Specimen from original lot in the U. S. National Museum, "Type C. 1801, Smithsonian Institution 24233". Coast of China. Lat. 23° 30' N., in 25 fathoms, sandy.

Figs. 18, 19. *Alvania fusca* Gould. Specimen from original lot in the U. S. National Museum "Type Smithsonian Institution 37347". Dredged in Hong Kong Harbor, China.

Figs. 20, 21. *Bittium craticulatum* Gould. Specimen from original lot in the New York State Museum "Gould Type Cat. No. 57 (original no. 2471)". Hong Kong, China, in the laminarian zone.

Figs. 22, 23. *Cyclostrema modestum* Gould. Specimen in the U. S. National Museum "Type C. 448, Smithsonian Institution 24170". Hong Kong, China.

Figs. 24, 25. *Liotia solidula* Gould. Specimen from original lot in U. S. National Museum "Type C. 1295, Smithsonian Institution 24224". The locality on the label given by Stimpson is "Kagosima", Japan. The original locality given by Gould was "Dredged in 25 fathoms off the coast of China".

Figs. 26, 27. *Rissoina nitidula* Gould. Specimen in the U. S. National Museum "Type C. 578, Smithsonian Institution 24071". China Seas.

Figs. 28, 29. *Joculator semipictus* (Gould). Specimen in the U. S. National Museum "Type C. 376, Smithsonian Institution 24208". China Seas.

Figs. 30, 31. *Liotia asteriscus* Gould. Specimen in the U. S. National Museum "Type C. 2050, Smithsonian Institution 24055". Hong Kong, China.

Figs. 32, 33. *Leptothyra lenticula* (Gould). Specimen from original lot in the U. S. National Museum "Type C. 400, Smithsonian Institution 24196". China Coral Seas.

(Continued on next page)

PLATE 50—*Concluded*

Figs. 34, 35. *Hyalia abnormis* Gould. Specimen in the U. S. National Museum "Type 392". China Sea; coral regions.

Figs. 36, 37. *Actaeopyramis sinuata* (Gould). Specimen in the New York State Museum "Gould Type Cat. No. 47 (original no. 2459)". China Seas.

Figs. 38, 39. *Alvania trochlearis* (Gould). Specimen in the U. S. National Museum "Type 661". China Seas.

Figs. 40, 41. *Semisulcospira libertina* (Gould). Specimen from original lot in the U. S. National Museum "Type C. 2120". Originally cited from "Simoda and Ousima, in sluggish streams and ditches". Japan.

Figs. 42, 43. *Plesiotrochus luteus* (Gould). Specimen from original lot in the New York State Museum "Gould Type Cat. No. 87 (original no. 2526)". China Seas.

Fig. 44. *Cerithiopsis laqueata* Gould. Specimen from original lot in the U. S. National Museum "C. 505b, Smithsonian Institution 24098". China Seas.

Figs. 45, 46. *Actaeopyramis puncticulata* (Gould). Specimen in the New York State Museum "Type Cat. No. 45 (original no. 2457)". China Seas.

PLATE 51

Figs. 1, 2. *Fossarus tornatilis* (Gould). Specimen in the U. S. National Museum "Type, 560". Hong Kong Harbor, China, in 10 fathoms.

Fig. 3. *Pyrene araneosa* (Gould). Specimen in the U. S. National Museum "Type C. 1368, Smithsonian Institution 24180". Originally cited from "Kagosima Bay and China Coast".

Fig. 4. *Pyrene bicincta* (Gould). Specimen in the U. S. National Museum "Type C. 517, Smithsonian Institution 24167". Hong Kong Harbor, 10 fathoms, shelly sand.

Fig. 5. *Pyrene lineolata* (Gould). Specimen in the U. S. National Museum "Type C. 562, Smithsonian Institution 24199". Hong Kong, China.

Figs. 6, 7. *Asthenotoma vallata* (Gould). Specimen in U. S. National Museum "Type C. 528, Smithsonian Institution 24195". Originally cited from "Vicinity of Hong Kong, in 10 fathoms, shelly mud". China.

Figs. 8, 9. *Pseudorhaphitoma tetragona* (Gould). Specimen in the U. S. National Museum "? Type C. 375, Smithsonian Institution 24197". China Seas.

Figs. 10, 11. *Pseudodaphnella intaminata* (Gould). Specimen in the U. S. National Museum "Type C. 402, Smithsonian Institution 24214". China Seas.

Figs. 12, 13. *Anachis minuta* (Gould). Specimen in the U. S. National Museum "Type C. 397, Smithsonian Institution 24231". China Seas.

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